

IN THE CLAIMS:

Cancel claims 1-85.

Please add new claims 86-107:

--86. (new) In a near field scanner having a rotating sensor, a method comprising:

conducting near field measurements along multiple positions and multiple planes relative to an integrated circuit (IC) to obtain magnitude and direction of magnetic field radiated by the IC; and

creating a corresponding current map using the near field measurements.

87. (new) The method of claim 86, wherein conducting near field measurements involves applying a transfer function to a signal received from the rotating sensor.

88. (new) The method of claim 87, wherein the transfer function is a function of frequency.

89. (new) The method of claim 87, further comprising calibrating the rotating sensor using a reference field source to obtain the transfer function of the sensor.

90. (new) The method of claim 86, wherein the near field scanner includes a tuned receiver.

91. (new) The method of claim 86, further comprising using the near field measurements to display a representation of the magnetic field, the representation characterized by at least one of the IC and an outline of the IC in tandem with the representation of the magnetic field.

92. (new) The method of claim 86, wherein conducting near field measurements includes inputting an excitation signal to the IC, the magnetic field being based in part on excitation signal parameters derived from the excitation signal.

93. (new) The method of claim 92, wherein the excitation signal parameters include controlling at least one of the frequency and the amplitude of the excitation signal.

94. (new) The method of claim 86, wherein the rotating sensor rotates about an axis perpendicular to a surface of the IC.

95. (new) The method of claim 86, wherein the rotating sensor includes a recognition mechanism for determining a relative direction of the rotating sensor with respect to the IC.

96. (new) The method of claim 86, wherein the rotating sensor includes a conditioning circuit for conditioning signals generated by the rotating sensor.

97. (new) A near field scanner including a rotating sensor, comprising:
means, coupled to the rotating sensor, for conducting near field measurements along multiple positions and multiple planes relative to an integrated circuit (IC) to obtain magnitude and direction of magnetic field radiated by the IC; and

means for creating a corresponding current map using the near field measurements.

98. (new) The near field scanner of claim 97, wherein the means for conducting near field measurements involves applying a transfer function to a signal received from the rotating sensor.

99. (new) The near field scanner of claim 98, wherein the transfer function is a function of frequency.

100. (new) The near field scanner of claim 98, further comprising means for calibrating the sensor using a reference field source to obtain the transfer function of the rotating sensor.

101. (new) The near field scanner of claim 97, further comprising a tuned receiver.

102. (new) The near field scanner of claim 97, further comprising the means using the near field measurement to display a representation of the magnetic field, the representation characterized by at least one of the IC and an outline of the IC in tandem with the representation of the magnetic field.

103. (new) The near field scanner of claim 97, wherein the means for conducting near field measurements includes means for inputting an excitation signal to the IC, the magnetic field being based in part on excitation signal parameters derived from the excitation signal.

104. (new) The near field scanner of claim 103, wherein the means for inputting excitation signal parameters include means for controlling at least one of the frequency and the amplitude of the excitation signal.

105. (new) The near field scanner of claim 97, wherein the rotating sensor rotates about an axis perpendicular to a surface of the IC.

106. (new) The near field scanner of claim 97, wherein the rotating sensor includes a recognition mechanism for determining a relative direction of the rotating sensor with respect to the IC.

107. (new) The near field scanner of claim 97, wherein the rotating sensor includes a conditioning circuit for conditioning signals generated by the rotating sensor...